Preventive Care for Emerging Adults

Introduction

Recently, there has been a recognition of the unique health care needs of the 18 -24 year age group, known as emerging adults.^{1,2} This cohort has been lumped in with other adults, ages 18 to 64; however this designation is increasingly considered inaccurate. These young adults have marked similarities with adolescents, who are still in the process of acquiring autonomy and also differences from older individuals who are fully independent. It is a group in transition from adolescence to adulthood with significant risk factors for harm – physical, mental and emotional.

Young adults, 18 to 24 years, access primary care services less frequently than other age groups. However, when they do seek care, the literature tells us that confidentiality, communication with healthcare professionals, continuity of care, and the behaviours and attitudes of healthcare professionals are the issues they consider most important.³ Although primary care providers may see some of these patients, they may not be familiar with their unique health and emotional needs. In fact, surveys have shown low rates of delivery of preventive services by providers.⁴ This paper will outline the distinct characteristics of this age group and, despite the lack of guidelines for preventive care specific to young adults, will also summarize the existing literature on preventive care in this age group. It will also make a case for the use of the ----- Health Record for Young Adults in the provision of this preventive care.

Part A: Background - What is an Emerging Adult? Is there a need for this new definition?

An emerging or young adult is best defined by first outlining what is meant by the terms adolescent and adult.

Adolescence is defined as "a period in the life cycle characterized by profound biological and psychological change. Not only is there the arrival of reproductive maturity and a rapid acceleration of skeletal growth, but these years also see the final steps in the evolution of a separate identity and in the acquisition of autonomy."⁵ The notion of adolescence as a distinct developmental category is a relatively new concept in human evolution. It was first established as a result of the work of Stanley Hall a developmental psychologist in the early 20th century.⁶ Adolescence was divided into three stages: early (12-14), middle (14-18), and late (18-21) each characterized with specific psychological tasks that needed to be achieved. In the mid-20th century the field of adolescent health emerged and became integrated into the discipline of pediatrics which traditionally offers care to individual until the age of 18. Emerging adults who are transitioning through late or extended adolescence fall under the care of family physicians.

The Oxford English Dictionary defines adult as someone who is fully developed, emotionally and mentally mature or having reached an age of majority in law.⁷ Therefore, during adolescence emancipation and individuation must occur to allow the individual to attain adulthood.¹ Emancipation is the achievement of autonomy and self-determination and the establishment of inner control on decision making, freedom of mobility as well as social and sexual activities;² whereas individuation is the state of being independent and capable of standing apart in relationship to their environment. Therefore, studies of transition to adulthood have focused on five key life events: "completing education, entering the labor force, becoming financially independent, getting married and becoming a parent". ⁸ While this is

accurate, the authors choose to modify this to four key live events, changing "getting married and becoming a parent" to 'establishing a permanent and committed relationship with a significant other'.

In the past 30 years there has been a demonstrable shift to later attainment of all of these events thus extending adolescence, as defined, and establishing the need to recognize a new group of individuals, the emerging adult with their own health needs and issues. The 18 to 24 year old group comprises approximately 9.2 percent of the Canadian population, proportioned 51 % male and 49 % female.⁹ Compared with the same age grouping over the preceding thirty years, there are substantial differences in residence, relationships, fertility, and employment and education.

Residence

According to Statistics Canada, more young adults live in the parental home than previously. In 2011, 60% percent of individuals 20 to 24 years were living in the parental home, contrasted with 42% in 1981. The proportion has steadily increased over the past thirty years.¹⁰

Relationships

The proportion of those living as couples also differed, with a figure of 16 % in 2011 as compared with 36% in 1981. Those in common law relationships (12%) outnumbered married relationships (4%) by three to one. Those figures were 8% and 28% in 1981 respectively. There is a clear trend downward over the past thirty years of young people establishing trusting, committed relationships.⁹

Fertility

Young adults, whether in opposite sex or same sex couples, are delaying becoming parents. Since the 1960s, the average age of childbirth has been increasing and is now shifted into the thirties.¹¹

Employment and Education

Young adults are staying in school longer and are less likely to be employed full-time and be financially independent compared to young adults in the past and older adults. ¹¹ Current studies show figures for participation in post-secondary education, college and university, of 70 to 80% compared with only 15% in those in their late 20s.^{11,12} The unemployment rate for individuals ages 15 to 24 has worsened over the last thirty years and is now more than double that of 25 to 54 year olds.^{11,13}

Conclusion

All these indicators demonstrate that the majority of young people do not achieve the major tasks of adolescence, autonomy and individuation, until later in age. This, therefore, establishes the need to define a new stage in the life cycle of individuals in Western culture, the emerging adult, and the need to identify their health concerns and what can be done so they may achieve optimal physical and emotional health.

Part B: Emerging Adults – Unique characteristics and the ----- Health Record in provision of preventive care

Provision of preventive care is a cornerstone of the practice of family medicine. It is recommended that we prevent injury, illness and disease and, when this is not possible, identify, treat and mitigate the effects of these conditions.

What is currently altering practice in Canada is the desire to deliver preventive services in the most efficient and costeffective way possible. We are to avoid unnecessary visits, manoeuvres and interventions.

Preventive care is often provided at a dedicated visit in the form of counselling, education, enquiry into habits and lifestyle, specific screening and immunization. However, when an age cohort seeks medical care infrequently and episodically, the provision of these important services may be more difficult. The clinician may be less aware of the specific needs and risk factors of that population and the targeted resources and guidelines available. An effective practice tool would not be designed to increase the number of visits but rather to provide the practitioner an easy-to-access guide to provision of evidence-based recommendations to be used when patients present and a ready-to-hand place to record prevention strategies when delivered.

This paper will make a case for a dedicated evidence-based preventive care tool: The ----- Health Record for Young Adults (GHRYA) for ages 18 to 24 years. A similar tool, the Greig Health Record, already exists for ages 6 to 17 years and is endorsed by the College of Family Physicians of Canada and the Canadian Paediatric Society. ¹⁴ The original paediatric tool is designed to be used in dedicated preventive care visits. While the modified 18 to 24 year tool offers primary care providers a similar easy-to-use checklist and ready-to-hand information that will assist them in targeting the preventive care needs of this population, this new record is intended mainly for use in episodic visits and for opportunistic prevention strategies.

The tool includes a check-list and tables of resources and recommendations in the supplementary pages. The strength of recommendations is indicated in **boldface** for good, *italics* for fair and regular typeface for recommendations based on consensus or inconclusive-evidence. Recommendation classifications are determined by evaluating the quality of the supporting evidence and the probability of net benefit.^{15,16} All tables and figures referred to in this paper are found in the GHRYA and pages/ web links are indicated as follows: (*GHRYA web link*)

In the past, the health needs of this age group were related to such issues as work related injuries, childbirth, and the stress and pressure of the young family; now the emerging adult has to deal with different needs. The following will outline the unique health issues of this group, prevention recommendations specific to this cohort and what is available in the ----- Health Record for Young Adults (GHRYA) to assist the primary care provider in the management of these issues.

Note that since the majority of young adults are involved in post-secondary education, most of the studies available focus on students. Where possible study data from Canada is used; however, the majority of studies come from the United States (U.S.) and other countries and those are also referenced.

Gender differences and gender-specific recommendations will be noted where indicated. The authors recognize that currently gender in our society is usually binary in nature. Nonetheless, many young people choose to define themselves using a range of gender roles and pronouns. We acknowledge and respect this choice, however, for ease of use we will be using terms such as female and women to denote natal females and male and men for natal males unless otherwise specified.

Life circumstances

Education, Employment and Finances

Asking patients what they are currently doing with education and/or employment is a natural way to begin any care visit and to get some context of his or her life circumstances. In addition, if circumstances warrant, asking about finances will give further clarity. As young adults are less likely to be financially independent, some may be at real risk due to poverty. Poverty has implications for numerous health issues¹⁷ including nutrition, housing and safety as well as access to recreation and physical fitness resources, medications, contraception and condoms. Those at higher risk for poverty are Aboriginal people, recent immigrants and refugees, street-involved youth, people with mental and physical disabilities, single parents and unattached individuals and racialized communities.^{18,19} These issues can be addressed and guidance provided on available community resources. The GHRYA begins with a heading, Education, Employment and Finances, to remind the health care provider to ask about these issues. *(GHRYA checklist)*

Populations at Risk

Aboriginal populations

Aboriginal peoples of Canada are a group at particular risk. They have reduced life expectancy and higher rates of poverty, unemployment, inadequate housing, obesity, chronic diseases including diabetes and tuberculosis, alcoholism and drug use, accidental injuries and death, death from homicide and suicide.^{20,21,22} A health resource link is included in the GHRYA. <u>(GHRYA supplementary resource page 1)</u>

Transition of Care with Special Health Care Needs

Young adults with special health care need may be particularly at risk during the transition from paediatric care to adult care. While some with family doctors may have one or more health care providers to help bridge the gap, others may be transitioning to a whole new team of health care providers. This risk of loss of continuity is substantial. It is recommended that preparation for this transition begins in adolescence with involvement of the family physician with the teen, their families and paediatric health care providers. This preparation may be helpful even in healthy adolescents. Resources concerning this transition are available in the Canadian Paediatric Society's position statement.²³

Strengths and Goals

The GHRYA also includes a heading for Strengths and Goals in the Psychosocial History section. <u>(GHRYA checklist)</u> This heading is included to remind the clinician that screening for problems can give a negative slant to the preventive care visits. The American Academy of Pediatrics states that "identifying, reinforcing, and building on inherent strengths can facilitate positive youth development." ^{24,25,26} A table of suggested Strength Questions is included in the supplementary materials. <u>(GHRYA supplementary resource page 2)</u> As these young adults complete their transition to independence and individuation, their goals become better defined. Young adults who cannot identify goals may be at risk.

It is important for each practitioner to be aware of the risks and strengths of the community and the individuals for whom he/she cares. Certain populations may have particular risks and challenges (eg those who are Aboriginal, LGTBQ, immigrants and refugees, less able –visibly and otherwise, etc) and paradoxically strengths and supports for those same reasons. Individuals and populations react more favourably to clinicians who emphasize resiliency as opposed to risk factors in their interactions.

Mental Health

Mental Health - Mood disorders, Anxiety, Social Anxiety

Most mental illness begins to manifest in adolescents and young adults. Young adults (20 to 29 years) are more likely to suffer from anxiety (5.8% vs 4.0% in adolescents and 2.6% for all individuals age 15 and above) and more likely than adolescents to suffer from mood disorders (3.5% vs 2.7% in adolescents).^{11,27} Certain groups of young people are at a higher risk for mental health issues. These include indigenous populations due to historical trauma ^{28,29,30}; lesbian, gay, bisexual, transgendered, two-spirited and questioning individuals because of minority stress, isolation and inner

homophobia^{31,32,33,34,35}; and refugees, immigrants or students coming from countries where genocide and mass trauma has occurred.^{36,37} Despite this, a Dutch study showed that only about a third of young adults (ages 18 to 24) with mental health problems sought professional help.³⁸ Of interest, students often report willingness to refer to their peers for help and express interest in learning how to assist a peer in distress.³⁹ Nonetheless, the primary care physician has a role to play in addressing these problems. Both dedicated preventive care visits and episodic visits offer opportunities to screen young adults for mental health issues and to offer option as to where to seek help. This is especially relevant for those in higher risk groups. Of note, those who visit more frequently to emergency departments may be at higher risk.⁴⁰

Screening tools for depression and anxiety are available. The U.S. Preventive Services Task Force (USPFTF) recommends screening for depression in adults and adolescents where depression care supports are available.^{41 42} Many screening tools are available. A quick screen with two questions may be as effective as other formal tools.⁴³ The ----- Health Record for Young Adults includes both the quick screen and the commonly used PHQ-9. *(GHRYA supplementary resource page 2)* These are chosen for screening tools as there is little evidence to recommend one screening tool over another and the PHQ-9 is recommended in adolescents, is available in many languages, is available free of charge on-line and can be included in electronic medical records for easy follow-up over time. ^{41,42,44} The adolescent version of the PHQ 9 is used here as it differs from the adult in a very minor way and asking about concentration on school work rather than reading newspapers is more appropriate to this age group.^{45,46} A guide for scoring is also included.^{44,48} *(GHRYA supplementary screening tool for anxiety screening, the GAD-7* and the corresponding short screen the GAD-2 are also included.^{44,48} *(GHRYA supplementary resource page 2)*

Mental health resource websites, including links to the Gain Short Screener, are also added to assist the user, though we encourage health care providers to explore what is available locally.^{49, 50,51} (*GHRYA supplementary resource page 2*). The Gain Short Screener is a validated screening tool for a broad range of mental health and psychosocial issues for ages 10 years and older including adults. It takes 3 to 5 minutes to administer and covers anxiety, depression and substance use as well as bullying, ADHD, gambling, aggression and criminal behaviour.^{52,53} A web link to ADHD self assessment resources is also included in the GHRYA. (*GHRYA supplementary resource page 2*)

Social anxiety may begin in childhood and early adolescence. Prevalence in adults is estimated to be around 7%. Affected individuals are more likely to drop out of school, have lower incomes and higher rates of depression and suicide. Early diagnosis and treatment is associated with better outcomes.^{54,55} A brief, validated screening tool, the mini-SPIN is available but is not in the public domain.^{56,57,58}

While the focus of this paper is prevention and screening, a reminder to the primary care provider regarding the use of selective serotonin reuptake inhibitors is included in the GHRYA. *(GHRYA supplementary resource page 2)* As with adolescents, the USPSTF found at least fair-quality evidence that second-generation antidepressants (mostly selective serotonin reuptake inhibitors [SSRIs]) increase suicidal behaviors in adults 18 to 29 years of age, especially those with major depressive disorder and those who receive paroxetine.⁴¹ However, the use of SSRIs when the benefits outweigh the risks is still recommended, as long as evaluation and close monitoring for adverse effects and suicidal ideation and behaviours is provided.^{59,60}

Mental Health - Injury and Death

Causes of Death

Accidents are the most common cause of death in youth and young adults aged 15 to 24 and account for 39% of deaths, followed by suicide at 22 %.⁶¹ Rates of death from homicide are highest in this age group.⁶² Young Canadians, mostly males, aged 15 to 29 years represented 10% of the workplace deaths in 2008. Most of these deaths are from motor vehicles.¹⁴

Self- Harm

Non-suicidal self-injury, such as cutting or burning, is most common in the young adult. University and college surveys show that a history of this behaviour may be anywhere from 17 to close to 30%. Although the intent is not to commit suicide, this behaviour is associated with increased risk of suicide later in life.¹⁴

Suicide

Most young adults when informed of a suicidal peer will choose to talk to the peer on their own rather than informing a responsible adult.⁶³ Firearm ownership is associated with increased suicide risk for 15 to 24 year olds.^{64,65} It is important that health care practitioners identify risk factors for suicide in young adults who express suicidal ideation and act accordingly. Moreover, an awareness of these same risk factors may help young people who are seeking help from their peers or those from whom help is being sought to provide better support. ^{66,67,68}Risk factors are outlined in the supplementary pages of the GHRYA and pages can be can be printed and given to patients. Links for crisis centres are also included. (*GHRYA supplementary resource page 2*)

Substance Use and Addictions – Alcohol, Tobacco, e-cigarettes, Cannabis and Illicit drugs, Caffeine and Energy Drinks

The U.S. Preventive Services Task Force (USPSTF) has recommended screening and counselling for alcohol and tobacco in adults and brief counselling to prevent initiation of tobacco use in children and adolescents but concludes that there is insufficient evidence to make a recommendation for screening for illicit drug use^{.69,70, 71,72,73}

Compared with other age groups, individuals 18 to 29 years are most likely to be heavy drinkers (more than 5 standard drinks per day), have high-risk drinking practices (such as drinking and driving) and drink in high-risk settings such as in public, groups or situations associated with violence.^{74 75} Approximately 40% of U.S. college students report binge drinking (5 or more drinks in one sitting) in the past month and approximately 30% meet criteria for alcohol abuse⁷⁶. Similarly, in 2016, 55 % of male and 45% of female Canadian college and university students reported having 5 or more drinks the last time they "partied".⁷⁷ Use of alcohol is associated with unintentional injury and death, bullying victimization, assaults and sexual assault.^{76,78} There is some evidence to support the effectiveness of screening and brief counselling interventions for young adults ^{79,80,81,82,83} These interventions can be carried out by the patients' primary care providers and may require as little as two 15-minute visits for motivational interviewing, contracting and take-home materials.⁸¹ Yet, young adults are often not asked or counselled about alcohol consumption.⁸²

Tobacco use in this age group is also a concern. Young adults, aged 18 to 29 years, have the highest rates of smoking at 28%. Approximately one-fifth of smokers tried their first cigarette after age 18.⁸⁴ Some evidence shows that tobacco smoking is associated with a progression to cannabis use and vice versa, the "gate-way" theory. However, it remains unclear if the use of one leads to the use of the other or if individuals who smoke tobacco, use cannabis and have other high risk behaviors have underlying mental health issues which predisposes them to risk taking behaviour.⁸⁴ Compared to older adults, this group is more likely to be occasional smokers.⁸⁵ They also have the highest spontaneous quitting rate and as such represent a unique opportunity for prevention counselling, although the tobacco industry focuses on recapturing young quitters.⁸⁶ Given the preceding data, it is important that the health care practitioner faced with an emerging adult who uses substances should explore the situation more fully, searching for other high risk behaviour. In terms of preventing smoking initiation, cigarette cost is a factor.⁸⁷

E-cigarettes are marketed in Canada as a healthier alternative to tobacco. They can include nicotine, flavours and additives. While nicotine cartridges are not legal for sale in Canada they are being sold commercially and on-line. They may contain particulate matter, toxins and heavy metals at higher levels than regular cigarettes. Based on testing done in 2014, approximately half of e-cigarettes sold in Canada, labeled as nicotine free, actually contained nicotine.⁸⁸ The use

of e-cigarettes may be particularly appealing to young adults. Seventeen percent of individuals aged 20 to 24 reported having tried e-cigarettes.⁸⁹ Even non-smokers report use. Concern exists that the use of e-cigarettes and celebrity endorsements thereof will undermine recent gains in smoking reduction.^{89,90,91} Links to information on e-cigarettes are found in the GHRYA.

Young adults are more likely to be diagnosed as chemically dependent. They appear to differ from other adult groups with substance use disorders. Young adults substance users are more likely to drop out of treatment, live with substance users, be experiencing family conflicts, have experienced hallucinations and think about or attempt suicide.⁹²

The abuse of prescription medication is on the rise. These can include sedatives, opioids, sleep aids and stimulants. This use is more common in students than their non-enrolled counterparts. ⁹³ Studies estimate the use of non-prescribed stimulants, i.e. obtained without a prescription, to be between 4 and 14% per year.⁹⁴ Non-prescribed stimulants are often used because of the belief that they will help with academic functioning.⁹⁵ Indeed prices tend to rise around midterm and final exam periods.⁹⁶

More than 40% of college students in the U.S. who have been prescribed stimulants have been approached to divert their mediations.⁹³ It is estimated that 2 to 8% of U.S. college students have ADHD, but this figure is hard to quantify as symptoms may be over-reported in order to obtain academic accommodations or stimulant medications either for recreation or as a perceived method of improving academic performance.⁹⁷⁹⁸⁹⁹ Of Canadian college and university students, 5.6 % report having been diagnosed or treated for ADHD in the past year.⁷⁷ College students with ADHD report greater problems with alcohol and drug consumption than their peers.^{98,100} ¹⁰¹ They may also be at higher risk for suicidal behaviours.¹⁰²

The CRAFFT screening questionnaire is highly sensitive for alcohol and drug problems in adolescents and young adults up to 21 years.^{103,104,105} This tool has been well-validated among 12 to 18 year olds. Studies of older adolescents and young adults up to age 21 years found that the optimal cut-point should be raised to 3 for part B versus 2 for younger adolescents.^{106,107} This questionnaire is included, with permission, in the GHRYA for use should a concern arise. <u>(GHRYA</u> supplementary resource page 3)

Cannabis use is common in Canada with 22% of individuals aged 14 to24 having used cannabis in the past year.¹⁰⁸ Young adults should be asked about cannabis use and those who report use should be asked about frequency and amount, tolerance and withdrawal, and attempts to reduce. Problematic use is associated with daily or almost daily use, difficulty reducing use and impaired school, work or social functioning. Physician advice should focus on the health effects of cannabis use, goal-setting for abstinence or reduced use and practical strategies for reducing cannabis use. For individuals from groups with higher rates of use (adolescents and young adults) and higher risk of harm, such as those with psychiatric issues or concurrent use of other drugs, annual screening is suggested.¹⁰³ Table of problematic use and harms of cannabis are included in the GHRYA to assist with counselling. *(GHRYA supplementary resource page 3)* There is fair evidence to recommend against prescribing dried cannabis, medical marijuana, for chronic pain or anxiety for individuals under 25 years. The 2014 College of Family Physicians of Canada guidelines make note of higher risks of "psychosocial harms, including suicidal ideation, illicit drug use, cannabis use disorder and long-term cognitive impairment" for this age group.¹⁰⁹

Caffeine is a stimulant drug found in a variety of food and drink such as coffee, tea, cocoa, some sodas and energy drinks. Students use caffeine in a variety of ways. For example, one survey reported that 51% of college students used more than one energy drink per month and the most common reasons for consuming were for insufficient sleep (67%), to increase energy (65%) and to drink with alcohol while partying (54%). ¹¹⁰ Adults are recommended to ingest less than 400 mg/day. A can of cola contains up to 50 mg of caffeine; a cup of coffee 118 to 179 mg. ¹¹¹ There is concern about the

marketing of energy drinks to youth. ^{112,113}. Health Canada has set limits on the amount of caffeine to 180mg per serving however energy drinks with higher levels may still be available.^{114,115} This is especially relevant in two specific situations, a) when combined with alcoholic beverages thus masking the depressive effect of alcohol and leading to larger amount of the latter being consumed and b) when used by non-habitual users of caffeine who are at greater risk of severe physiological reactions. A link to Health Canada's information on these drinks is included in the GHRYA. <u>(GHRYA</u> <u>supplementary resource page 1 and 3)</u>

Substance Use and Addictions – Electronic Media – Internet Addiction and Gambling Addiction

Young people are making greater use of the Internet as a means of communication, learning and as a pastime.¹¹⁶ Internet addiction occurs in both adolescents and adults. One survey showed 16% of young adults had symptoms of internet addiction. Most of these admitted to spending over 15 hours a day online. Five signs of possible addiction were defined as: 1) spending hours online, 2) becoming irritable when interrupted when using the internet, 3) feeling guilt about time spent on line, 4) isolation due to excessive time spent online and 5) euphoria when online and panic when offline. ¹¹⁷ Almost 20% of Canadian college and university students report that internet use and computer games have had detrimental impacts on their academic performance. ⁷⁷ There are at least three subtypes of Internet addiction including gaming/gambling, cybersex and social networking. Internet addiction is associated with affective disorders, anxiety disorders including social anxiety, and attention-deficit/hyperactivity disorder. There is a positive correlation between problematic internet use and shyness, loneliness, avoiding social relationships and dating anxiety. ¹¹⁸ Moreover, a relationship exists between internet addiction and depression, with young people more likely to show addictive symptoms than older adults.¹¹⁹ The use of the internet and its impact on young adults clearly requires further study.

Studies suggest that young adults have higher gambling rates compared to older adults. A meta-analysis showed higher rates of problem gambling (10%) and pathologic gambling (6%) compared with adolescents (8 and 3% respectively) and adults (4 and 2% respectively). Another meta-analysis showed rates of 10% for pathologic gambling.¹²⁰To screen for a gambling problem one should ask about frequency, tendency to gamble more than planned, and behaviours suggesting they are hiding their gambling behaviour. Problem gambling is treated in the same way as other behavioural addictions.¹²¹ The DSM V includes gambling disorder in its own category in the chapter of behavioural addictions.¹²²

The GHRYA contains tables for internet addiction in general and for gambling addiction. Web links are also included for patient information. (GHRYA supplementary resource pages 1 and 3)

Electronic Media

Electronic Media - Violence

There is a relationship between watching violent television programmes and violent behaviour in youth.¹²³ Studies in young adults show that use of violent media is associated with more willingness to inflict shocks or loud aversive noises on peers, more permissive attitudes towards alcohol and marijuana and more uncooperative behaviour.¹²⁴ How knowledge of this association can be helpful to the primary care provider of emerging adults is uncertain; however it may be more relevant in children, when counselling parents about establishing positive television habits.

Electronic Media – Social Networking

Social networking sites (SNS) are used by students to pursue new social connections, both online and offline and to maintain old relationships. One study showed that students who were more motivated to pursue new relationships on line and those with more frequent status updates, had worse social adjustment and loneliness. More frequent actual

peer interaction was associated with better social adjustment and lower levels of loneliness.¹²⁵ Youth disclose more about themselves on SNSs than they do in person.³⁹ However, this may be different from in-person identities as one can reveal only those characteristics one chooses. Interestingly, portraying oneself as an alcohol consumer is common, and considered socially desirable, but is also associated with potential of problem drinking.¹²⁶ Asking about use of social networking compared with in-person interactions may help screen for interpersonal issues.

Electronic Media - Hearing protection

The periodic health visit is an opportunity to talk to patients about using ear protection for very loud activities such as music concerts and to keep volumes down on personal music devices. Using appropriately fitting earbuds and earphones is helpful.¹²⁷ Permanent hearing loss is related to the loudness and the duration of exposure. Rock concerts and personal music players can reach an intensity of 110 to 120 dB. ^{128,129} The upper limit recommended for occupational noise exposure is 85 dB¹³⁰. The GHRYA has links to internet resources on hearing-loss prevention. *(GHRYA supplementary resource pages 1)*

Sexual Health and Relationships

Sexual Health and Relationships – What should be asked?

The Center for Disease Control and Prevention (CDC) recommends asking about "the Five Ps": Partners, Pregnancy Prevention, STI Protection, Practices and Past STI history.¹³¹ It is important to note that these questions ask about behaviour in a non-judgemental way and avoid labels such as "homosexual" and "prostitution". The use of such labels may garner a negative answer from a patient who is engaging in the behaviour you are attempting to ask about, thus leading to missing an important piece of information and affecting the validity of your risk assessment. The questions have been modified to be more inclusive and less confrontational and are included in the GHRYA. *(GHRYA supplementary resource page 4)*

Sexual Health and Relationships –LGBTQ

Patients who identify as lesbian, gay, bisexual, transgendered or queer/questioning(LGBTQ) have unique challenges during the transition from adolescence to established adulthood. LGB young adults (5 to 9 % of the young adult population) are at greater risk for mental health disorders, substance use and abuse, self-harm, assault, and discrimination.^{132,133, 134,135, 136}An analysis of over 100,000 U.S. college students showed that gay, unsure or bisexual men were more likely to have an eating disorder or disordered eating and both LGB men and women were more likely to report dieting to lose weight when compared with heterosexual individuals of the same gender.¹³⁷ One study showed that non-heterosexual female university students are more likely to experience bullying both as victims or bullies than heterosexual women and males. ¹³⁸ Studies of transgendered young adults are limited. We do know that victimization and isolation in adolescence of transgendered youth is common and that these experiences have negative influences on the mental health of these individuals and the prevalence of sexually transmitted infections is increased when they are young adults.¹³⁹ Family acceptance in adolescence of LGBT individuals is associated with better self-esteem, social support and general health as young adults.¹⁴⁰ The Centers for Disease Control and Prevention and the Canadian PREVNet Bullying website have resources for youth and their families.^{141,142} Links to these sites are found in the GHRYA. *(GHRYA supplementary resource page 1)*

Sexual Health and Relationships -Serial monogamy and Other Risky Sexual Behaviour

In an attempt to establish a trusting and committed relationship the majority of young adults engage in serial monogamy which is defined as multiple serial sexual partners over time. Regular partners are perceived as lower risk and condom use diminishes over time. This puts them at significant risk for sexually transmitted diseases as partners engage or have engaged in sexual activity with others outside the relationship .^{143,144} Of Canadian college and university students 14.6% reported having 3 or more sexual partners in the preceding 12 months.⁷⁷ Casual sexual interactions outside of committed romantic relationships, include a wide range of behaviours from kissing to anal or vaginal sex, and are commonly called hookups. These are more common in young adults. These hookups may occur in social settings and frequently through internet sites. Consequences of this behaviour include emotional distress, sexual victimization and sexually transmitted infections.¹⁴⁵

Sexual orientation is related to the number of sexual partners in young adult students. Sexually active females who have both female and male partners are most likely to have an STI, compared with those with only male or only female partners. In males, those who identify as unsure as to their sexual orientation or questioning have the highest number of partners.¹⁴⁶

Sexual Health and Relationships - Electronic Media

More frequent use of pornography is associated with having had more sexual partners in the past, more one- time encounters and plans to have a higher number of sexual partners.¹⁴⁷ This is an interesting finding but the role for counselling about this association will require further study.

Computer-mediated communication of sexually explicit words, pictures or videos is called sexting. Texting and sexting are common in young adult relationships¹⁴⁸; texting is more common among those with secure attachments and sexting with those with insecure attachments. Many young adults, male and female, may participate in sexting in spite of a reluctance to do so, termed unwanted but consensual sexting. Motivations include a desire for flirtation, foreplay, fulfilling a partner's needs and intimacy .¹⁴⁹ Attachment anxiety may play a role in a positive attitude towards sexting.^{147,150} A risk of this kind of interaction is that the words and images may be forwarded to others.¹⁴⁹ Conflicting evidence exists for the possible association with sexting and high-risk sexual behaviour.^{151, 152, 153} Again, an awareness of this behaviour does not elucidate the role for counselling and further study is required.

Sexual Health and Relationships - Contraception

Close to 70% of college and university students reported having ever had vaginal intercourse. Sixty percent reported using condoms. Condom use is not always consistent. For the most recent vaginal intercourse, 55.4 % reported using a method of contraception but that included withdrawal in 31.8%. Use of emergency contraception was reported by 14.0% of sexually active female college students in the preceding school year.⁷⁷

Counselling about contraception for those whose partner is of the opposite natal gender is recommended by the Society of Obstetricians and Gynaecologists of Canada.¹⁵⁴

Sexual Health and Relationships – Sexually Transmitted Infections (STIs)

There has been an ongoing increase in reported STIs in the Canadian population.¹⁵⁵ . Condoms are used inconsistently. In university and college students who report sexual activity, condoms were used by only 46.3% for vaginal intercourse, 28.4% for anal intercourse and 4.5% for oral intercourse.⁷⁷

STI screening is recommended in all sexually active females under 25 as this group is at highest risk.¹⁵⁶ US data show that the prevalence of chlamydia in individuals ages 14 to 24 is three times that of those 25 to 39 years of age.¹⁵⁷

According to the United States Preventive Services Task Force (USPSTF), there is insufficient evidence for a screening recommendation in males but goes on to qualify: the highest rates of chlamydial and gonococcal infections in males occur in those aged 20 to 24 years and that an assessment of risk should be considered in decisions about screening. Those risk factors are summarized in the STI screening table in the GHRYA.¹⁵⁶ The USPSTF also recommends offering or referring these patients who are at increased risk to intensive behavioural counselling for STI prevention.¹⁵⁸

Urine samples are preferred for male chlamydia and gonorrheal screening. In females, urine testing is acceptable for screening asymptomatic women but has lower sensitivity than cervical or vaginal swabs especially for gonorrhea. ¹⁵⁹ Urine samples are recommended to be provided without voiding for 2 hours prior however this does not preclude screening in individuals who have recently voided as the reduction in sensitivity for chlamydia is small.¹⁶⁰ Vaginal self-swabs are an option for asymptomatic females who wish to avoid a genital examination. ¹⁶¹

For females who are symptomatic or who have had contact with an infected person, cervical or vaginal swabs should be used.¹⁵⁸ Cultures may be falsely negative if taken prior to 48 hours post exposure; NAAT (nucleic acid amplification tests) are preferred for testing in this time period. The CDC recommends self-administered vaginal swabs as the preferred method for sampling especially in females who wish to avoid a genital examination.¹⁶¹It should be noted that genital examination is preferred as it would allow the detection of other problems such as genital warts and that detailed instructions need to be given to the patient to assure adequate self-sampling. Note that for males who have sex with males the CDC recommends gonorrhea screening for urethral, pharyngeal and rectal infections.¹⁶¹

Screening recommendations for oral or rectal exposures are currently evolving. Screening for chlamydia and gonorrhea can be done with cultures or with NAATs which have been validated for these sites. Recommendations are modified for higher risk exposures (such as multiple sexual partners or men who have sex with men), symptomatic patients, post sexual assault, and test of cure for suspected treatment failure. Note that for females with anogenital symptoms, rectal testing is recommended as colonization can occur without anal penetration. Details regarding specimen collection recommendations are available from the Public Health Agency of Canada.¹⁶⁰

Sexual Health and Relationships – HIV screening

Individuals aged 13 to 29 years account for about 40% of new HIV infections.¹⁴⁶ Of Canadian college and university students, only 23% reported that they had ever had a test for HIV. ⁷⁷The USPSTF has updated recommendation about screening for HIV. It recommends screening <u>all</u> individuals from 15 to 65 years and screening those under or over if they have risk factors. Risk factors include: Men who have sex with men, injection drug users, those with STI's or requesting STI testing, unprotected vaginal or anal intercourse, sexual partners who are HIV infected, bisexual or injecting drugs, and those who exchange sex for drugs or money. The previous recommendation advised screening for those at increased risk, however they conclude that the net benefit of screening is substantial. Interventions exist to reduce the risks for clinical progression, complications and death and disease transmission. ¹⁶²

Sexual Health and Relationships – Hepatitis B (HBV) screening

Hepatitis B screening is recommended in those at high risk. This includes men who have sex with men and sexual contacts of those infected with HBV but also includes those at risk for non-sexual transmission, persons with HIV, injection drug users, household contacts of HBV infected persons, and those born in countries with a high prevalence of HBV ($\geq 2\%$).¹⁶³

Sexual Health and Relationships – Hepatitis C (HCV) screening

Hepatitis C transmission is independently associated with high risk sexual behaviours eg multiple partners, or sex with someone infected with HCV or injection drug users, sexual transmission is inefficient and risk is difficult to quantify due to other confounding behaviours. While not exclusively sexually transmitted, it is included in this section on screening for association with other screening. Screening is recommended in persons at high risk for infection. These include use of injection drugs, transfusions before 1992, being born to an infected mother, incarceration, intranasal drug use and getting an unregulated tattoo.¹⁶⁴

Sexual Health and Relationships – Syphilis Screening

According to the USPSTF, screening for Syphilis is recommended in adolescents and adults at increased risk. In the US males aged 20 to 29 years had the highest prevalence, nearly 3 times the average for adult males.¹⁶⁵

Sexual Health and Relationships – Genital Herpes Screening

Serologic screening for genital herpes for asymptomatic individuals is not recommended due to high false positive rates and risk of psychosocial harms.¹⁶⁶

Sexual Health and Relationships- Cervical Screening Guidelines

Updated cervical screening guidelines from the USPSTF, Cancer Care Ontario and the SOGC recommend screening beginning at age 21 and screening every 3 years. Screening under age 21 years is not recommended as "because abnormal test results are likely to be transient and to resolve on their own; in addition, resulting treatment may have an adverse effect on future child-bearing."^{167,168,169} Women who are not sexually active by age 21 should delay screening until sexually active.¹⁶⁸ Provincial guidelines vary with some recommending screening beginning immediately once sexually active, others within or after 3 years of first sexual activity, while others use the Canadian Task Force on Preventive Health Care.¹⁶⁹ The Canadian Task Force on Preventive Health Care also recommends not screening under 20 years. This recommendation is graded as strong with high quality evidence. It is interesting to note that for the age group 21 to 24 years, they also recommend not screening. This is a weak recommendation with moderate quality evidence.¹⁷⁰ Others challenge this recommendation as having included studies from countries where the average age of initiation of sexual activity is higher and studies where cervical screening had already been done prior to study participation.¹⁶⁹ The recommendation as to the frequency of screening varies according to the guidelines, some suggesting every two years and others three.¹⁶⁹ This is a dynamic field with recommendations subject to ongoing change as further research is done.

Testing for HPV either alone or in combination with cytology is not recommended in individuals under 30 because of its higher rates of false-positives coupled with low incidence of cervical cancer in this age group. ^{167, 170} Vaccination against HPV does not eliminate the necessity for screening. Further research is needed into the effectiveness of vaccination.¹⁷⁰

The GHRYA has a table which summarizes the screening recommendations for STI and cervical cancer screening. A table with counselling recommendations from the Public Health Agency of Canada (PHAC)¹⁶⁰, the Centers for Disease Control and Prevention (CDC)¹⁶¹ and the Society of Obstetricians and Gynaecologists of Canada is also included. ¹⁶⁹ (GHRYA supplementary resource page 4)

Sexual Health and Relationships - Bullying, Intimate Partner Violence and Assault

The GHRYA recommends asking about relationships in general as well as any history of abuse, violence or assault.

Women ages 18 to 24 have the highest rates of intimate partner violence (IPV) compared to other age groups and males. ¹⁷¹ In Canada, 43% of dating violence occurs in women aged 15 to 24. Sixty-six percent of all female victims of sexual assault are under the age of 24 years and 54% of girls between aged 15 and 19 experience "sexual coercion" in a

dating relationship.^{172,173} One study in 1993 of first-year university women in Canada found that more than one in four women had been sexually assaulted.¹⁷⁴ A more recent study published in 2014 found an even higher figure of 35% for sexual assault and 23.5% for completed rape. Of those who had been raped almost 80% occurred while they were under the influence of alcohol or drugs. ¹⁷⁵

The high frequency of IPV and assaults may occur because of young women's association with young men, who have the highest rates as perpetrators of IPV.¹⁷⁶ Men, too, are victims of sexual assault, IPV and emotional abuse in relationships.^{177,178} The risk of IPV increases with the duration of the relationship and academic strain.¹⁷⁹ In the 2016 American College Health Association survey of Canadian college and university students, 10.5 % reported having been, in the past year, in an emotionally abusive relationship, 2.1% in a physically abusive relationship and 2.3 % in a sexually abusive relationship.⁷⁷ Physical and sexual abuse in the context of intimate relationships is associated with posttraumatic stress.¹⁸⁰ The USPSTF reviewed intimate partner violence and concluded that screening for intimate partner violence in women of child-bearing years, ages 14 to 46, is of moderate net benefit. Sexual assault resistance education for women is being developed.¹⁷⁴

Bullying, while less prevalent than in adolescents, is common in post-secondary students with 21 to 25% reporting bullying by peers and 10 to 15% experiencing cyberbullying. Students who work often work part-time in low status jobs. Those being bullied at school are often also bullied in the workplace. Bullying victimization is associated with negative health consequences including depression, suicidal behaviours, anxiety, increased alcohol use, relationship problems and school and work performance issues. ^{76,138}

The GHRYA has a section on the checklist to remind the practitioner to ask about abuse and bullying. Internet resources are included for patients. (GHRYA checklist and supplementary resource page 1)

Sexual Health and Relationships - Breast and Testicular Routine or Self-Examination Not Recommended

Teaching breast self-examination or routine clinical breast examination is not recommended in adults between 40 to 70 years of age. There is fair evidence of no benefit and good evidence of harm in the form of increased physician visits and benign biopsy results. For women under 40 there is little evidence on which to base a recommendation; however the very low incidence of breast cancer in this age group would make the net risk of harm more likely^{181,182}.

There is evidence to recommend against counselling for testicular self-examination or routine clinical examination, in individuals of average risk, in light of the low incidence of testicular cancer and favourable outcomes in the absence of screening¹⁸³.

Sleep

University and college students are known to have poor sleep hygiene. Insufficient sleep is associated with mood disturbances, substance use, decreased academic achievement, obesity and an increased risk of automobile crashes^{184,185,186,187,188} The use of electronic media is also associated with sleep disturbance but the causality relationship is unclear. ¹⁸⁹ Not surprisingly, working may worsen sleep issues.¹⁹⁰ Twenty-seven percent of these students ranked sleep difficulties third (after stress and anxiety) in the top 10 reported health impediments to academic performance.⁷⁵ The GHRYA has a table of Good Sleep Habits for counselling. *(GHRYA supplementary resource page1)*

Obesity, Diets, Nutrition, Disordered Eating, Physical Activity

Measurement of weight and calculation of BMI is strongly recommended.^{69,191}

Only 59.9% of the Canadian participants in the 2016 National College Health Assessment had BMIs in the healthy range.⁷⁷

Screening for nutritional issues in young adults is important as they often have restricted and/or poor eating habits. In one university survey of undergraduates over 18 years, 29 % of respondents reported adherence to vegetarian, vegan, gluten-free or disordered eating behaviours.¹⁹² The 2016 American College Health Association's survey of Canadian post-secondary students reported that only 9.6 % ate 5 or more servings of fruit and vegetables per day.⁷⁷

Unhealthy weight loss is common in female college students and one study showed unhealthy practices such and fasting and purging in both men and women who were overweight or obese.¹⁹³ The abuse of stimulant medications is another unhealthy weight loss practice that occurs in young adults.¹⁹⁴ The GHRYA has a heading for asking about body image and dieting. We recommend a positive approach - recognizing that body size should not be a barrier to adopting healthy practices such as healthy eating, physical activity and recognizing one's own hunger and satiety, as well as avoiding shame and preoccupations about size,

Supplementary tables in the GHRYA include Health Canada's recommendations for Daily Intake and Canada's Food Guide.¹⁹⁵ (*GHRYA supplementary resource page 1*) Recommendations for 14 to 18 years as well as 19 to 50 years have been included. It is interesting to note that dietary recommendations for a 19-year-old are considered to be similar to a 50-year-old and different from an 18-year-old, largely because studies to date classify all individuals over 18 as adults. We recommend further studies on young adults to clarify when nutritional requirements transition.

Healthy eating and lower levels of depressive symptoms and perceived stress are linked.¹⁹⁶ Shared meals are associated with better diet quality in young adults. Those that had frequent family meals as adolescents are more likely to carry on the tradition of shared meals when young adults.¹⁹⁷ Unfortunately, a large proportion of meals are eaten alone, with no advance planning and while engaging in other activities.¹⁹⁸

Physical Activity

Guidelines for physical activity (PA) for adults are available from the Canadian Society for Exercise Physiology (CSEP). Review of evidence shows a reduction in all-cause mortality and for specific diseases: cardiovascular disease, stroke, hypertension, colon cancer, breast cancer, type 2 diabetes and osteoporosis. They make strong evidence-based recommendations for > 150 minutes of moderate to intense aerobic physical activity per week in bouts of 10 minutes or more and advise including muscle and bone strengthening activities > 2 days per week. They note that more physical activity is associated with greater health benefits. ¹⁹⁹

Vigorous physical activity declines when students leave high school for college and university.²⁰⁰ Approximately 40% of Canadian participants in the 2016 National College Health Assessment II, met the U.S. guideline recommendation for physical activity.⁷⁷ The US guidelines recommend moderate-intensity cardio or aerobic exercise for at least 30 minutes on 5 or more days per week, or vigorous-intensity cardio or aerobic exercise for at least 20 minutes on 3 or more days per week.²⁰¹ Those meeting the guidelines were more likely to have adequate daily fruit and vegetable consumption, use seatbelts consistently, not smoke cigarettes, less reported depression and adequate sleep but also more likely to binge drink, be involved in a physical fight and have multiple sexual partners.²⁰²

The GHRYA has links to the CSEP guidelines as well as tables for recommendations for physical activity, nutrition and BMI. (GHRYA supplementary resource page 1)

Injury Prevention Helmets

There is good evidence to support the use of bicycle helmets with studies showing an overall decrease in the risk of head and brain injury by 65%-88%.²⁰³²⁰⁴. Legislative interventions are also clearly effective in reducing head injuries but only 5 of our 13 provinces and territories have bicycle helmet legislation for adults.²⁰⁵²⁰⁶ Counselling increases use.²⁰⁷

Helmets are also recommended for other activities such as hockey, football, downhill skiing, snowboarding, roller blading and other on-road wheeled activities^{208,209} as well as for motorized vehicles such as motorcycles²¹⁰ and snowmobiles²¹¹. (*GHRYA checklist*)

Injury Prevention – Smoke Detectors

Smoke detectors save lives. Individuals and families should be counselled to ensure that smoke alarms are properly installed and checked regularly. With battery powered units, the batteries should be changed twice yearly, and for all detectors, the whole unit replaced every 10 years. ^{212,213, 214} Studies suggest that carbon monoxide detectors are beneficial.^{215,216,217} (GHRYA checklist)

Motor Vehicle Safety

Young drivers are responsible for a disproportionately large number of car crashes. These crashes are the leading cause of death for young people.²¹⁸ In Canada 15 to 19 year olds and 20 to 24 year olds comprise 4.8 and 7.8 percent of drivers respectively. Yet the fatality rates are 8.8% and 13.5% for drivers and 19.8% and 14.6% for passengers respectively.²¹⁹ In the US the crash rate per distance driven in 18-19 year-old drivers is 5 times higher than that of 30-59 year-old drivers.²²⁰ In contrast to driver education training programs, graduated licences appear to be effective in crash prevention.²²¹ A Cochrane review, of drivers under 20 years old, updates and confirms evidence for effectiveness of graduated licences in reducing young driver motor vehicle crashes.²²⁰ While males are more likely to die in motor vehicle crashes due to the greater distances driven and higher rates of risky driving practices²²², counselling should be directed to both genders, drivers and passengers alike.

There is good evidence to recommend the use of seat belts for prevention of injury. ^{223,224} Yet, young adults are less likely to buckle up. Transport Canada statistics showed, in persons aged 15 to 24 who were fatally injured, 45.5 % of drivers and 52.2 % of passengers were not wearing their seatbelts.²¹⁸ (*GHRYA checklist*)

Workplace Safety

Young people, aged 15 to 24 years, are at highest risk for injury in the workplace and awareness of safety may be low.^{225,226,227,228} Workplace safety is included on the GHRYA checklist so that this important issue may be addressed. (GHRYA checklist)

Environmental Exposures and Hazards

Sun exposure

The USPSTF recommends individuals aged 10 to 24 years, with fair skin about minimizing their exposure to ultraviolet radiation to reduce risk for skin cancer.²²⁹ The Canadian Cancer Society and the Canadian Dermatology Association have websites with specific information on sun protection.^{230,231} The GHRYA has links to these sites. (GHRYA supplementary resource page 1)

Physical Examination Blood pressure

Blood pressure measurement is recommended at all preventive-care visits.^{69,232} Other headings have been included for case-finding only. <u>(GHRYA checklist)</u>

Laboratory Investigations

Lipid screening

Lipid screening is recommended for adults with any of the following risk factors: cigarette smoking, diabetes, hypertension, family history of premature coronary vascular disease (CVD) or hyperlipidemia, erectile dysfunction, chronic kidney disease.²³³ ²³⁴ The USPSTF finds insufficient evidence to support lipid screening in children, adolescents and young adults up to age 20. ²³⁵ How this is to be interpreted for young adults ages 21 to 24 is uncertain but further study would be advised. *(GHRYA checklist)*

Diabetes screening

The Canadian Diabetes Association (CDA) recommends screening for type 2 diabetes in adults at increased risk. Unfortunately the CANRISK questionnaire from the CDA is for people 40 years and older. In post-pubertal youth, the recommendation is to screen every 2 years in those with 2 or more risk factors – consensus recommendation only. Risk factors include obesity (BMI > 95th %ile), being a member of a high risk ethnic group such as Aboriginal, African, Asian, Hispanic or South Asian descent, a family history of type two diabetes and or exposure to hyperglycemia in utero and signs or symptoms of insulin resistance. Other risk factors include prediabetes and the use of atypical antipsychotic medications. Additional risk factors are considered for adults. How risk should be assessed in young adults is unclear as evidence is lacking. Thus the supplementary tables of the GHRYA include links to CDA guidelines but no specific recommendation.²³⁶ (GHRYA supplementary resource page 4)

Iron deficiency screening

Ferritin should be used to screen those with multiple risk factors for iron deficiency. A high index of suspicion should be maintained for iron deficiency in menstruating females. Those with dietary, ethnic or other risk factors should be considered for screening. When screening for iron deficiency, ferritin, not haemoglobin, is the most sensitive and specific measurement ²³⁷, ²³⁸. It is important to remember that ferritin is an acute phase reactant and as such it may be elevated in certain pathologic states. *(GHRYA supplementary resource page 4)*

Vitamin D deficiency screening

There is insufficient evidence to support screening for Vitamin D deficiency in adults or children. ^{239,240} (GHRYA supplementary resource page 1)

Immunizations

Immunization recommendations are to be followed as per current Public Health Agency of Canada's National Advisory Committee on Immunization (NACI) guidelines^{69,241} and the immunization status of patients should be checked. Techniques for reducing pain during vaccination and alleviating anxiety are outlined in a useful Canadian guideline for adults and children²⁴² and information is also available online at <u>http://phm.utoronto.ca/helpinkids/</u>. The GHRYA contains a reminder to review vaccination status. (*GHRYA checklist*)

There are three HPV vaccines available in Canada HPV-2, HPV-4 and HPV-9. All three are recommended for use in women 9 to 45, while HPV-4 and HPV-9 are recommended in men, for the prevention of infection caused by various strains of HPV. At this time the vaccine has been approved in men up to age 26 but it is expected that with further study use will expand to older men. HPV types 16 and 18, contained in all three vaccines, are the most persistent and highly associated with cancers of the cervix, penis, anus, mouth and oropharynx.^{243 244}. HPV types 6 and 11 are strongly associated with genital warts in both genders and is contained in both HPV-4 and HPV-9 vaccines. HPV-9 contains an additional 5 stains: 31, 33, 45, 52, and 58 which are also associated with malignancies. ²⁴⁵

Meningococcal Vaccination

Vaccination against meningococcal disease in adolescents and young adults up to age 24 years is recommended with either the monovalent (Men-C-C) or any of the three available quadrivalent (Men-C-ACYW) vaccines, depending on local epidemiology, even if they have been previously vaccinated as infants or toddlers. The new vaccine for meningococcal B may be considered on an individual basis and for those at higher risk of invasive meningococcal disease.^{246,247} NACI guidelines should be consulted for special circumstances and other ages.

Hepatitis A Vaccination

Hepatitis A vaccination is recommended for those with lifestyle risks for infection including those who use both injectable and non-injectable illicit drugs and men who have sex with men. The vaccine is also recommended for those at risk of contracting Hepatitis A through travel, immigration from endemic areas or from household contacts.²⁴⁶

Hepatitis B Vaccination

Young adults may be at higher risk for acquiring Hepatitis B infection. Young adults may have had vaccination through school-based programs. Confirmation of vaccination history for Hepatitis B is recommended. Those having unprotected sex, multiple partners, higher risk sexual practices, men who have sex with men, and those who use injection drug are at high risk and should be offered pre-exposure vaccination. Other risks are listed in the Canadian Immunization Guide.²⁴⁶

Pertussis Vaccination

Pertussis is a highly communicable disease and susceptible adults are often the source of infection for infants. NACI recommends vaccination with Tdap (tetanus, diphtheria and acellular pertussis) for all adults who have not previously received a dose in adulthood.²⁴⁶

Measles, Mumps and Rubella Vaccination

There have been recent measles outbreaks and mumps outbreaks in Canada including college and university campuses. Young adults should have received two doses of MMR vaccine to ensure immunity.²⁴⁶

Rubella titre

Screening is not necessary with documented evidence of prior rubella vaccination or immunity.²⁴⁶ Review of rubella status is recommended prior to pregnancy and can be addressed with sexually active women. Preconception tools are available.²⁴⁸

Why use the ----- Health Record for Young Adults?

The 18 to 24 age group is clearly a transitional age group from adolescent to adult. They have many similarities with adolescents such as progressing towards emancipation and individuation and a high prevalence of such health issues as STIs and risk taking behaviors. Until now, Canadian preventive care guidelines have considered them to be part of a

cohort of 18 to 64 year olds.²⁴⁹ Providing preventive care requires an age-specific approach. Because this group visits primary care providers infrequently and yet still accesses medical services, the primary care provider may be unfamiliar with their unique needs as they relate to prevention.

The original Greig Health Record is a paediatric tool designed to target the preventive care needs of children and adolescents. The ----- Health Record for Young Adults adds to the original document to cover recommendations for the 18 to 24 age range that are relevant, practical and evidence-based. The use of the check-list tool for young adults allows for easy comparison with the paediatric check-lists. The supplementary pages of the GHRYA provide easily accessible and ready-to hand resources to assist with prevention counselling and screening.

Unlike the original paediatric checklist, the GHRYA is intended to be used primarily for opportunistic screening and counselling as opposed to a dedicated prevention visit; yet the format allows for easy comparison with the Greig Health record. The multiple columns (with no age specified) in the checklist allow for items to be "ticked-off" as they are addressed at any visit. The first page of the supplementary resource pages also doubles as a handy patient information handout with tables of information and numerous web links. The second page focuses on mental health and psychosocial history. The third page of supplementary information has information on and screening for substance use and addictions. The fourth page covers sexuality, screening for cervical cancer and sexually transmitted diseases as well iron deficiency and diabetes screening guides. The supplementary pages can and should be used piece-meal as the need arises.

For example, a patient might present to an urgent care clinic with palpitations. Having evaluated the patient for the palpitations themselves, a clinician could then use the psychosocial history and substances and addictions sections of the checklist as a reminder of related issues and a place to note which issues have been covered. When anxiety is brought forward as a possible diagnosis, the GAD-7 screen for anxiety would be available in the supplementary resource pages.

Conclusion

The ----- Health Record for Young Adults addresses the unique preventive care needs of this group. It provides an easyto-use, practical, evidence-based tool that can be used in conjunction with any patient encounter. It consists of a checklist and pages of Web-links, resources and guidelines that can be used for providing preventive care to the unique population cohort of emerging adults.

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